

We claim:

1. A water purification apparatus for connection to a water system associated with a body of water to be treated with chemicals that are supplied in the form of dissolvable tablets, the water purification apparatus comprising:
  - 5 a. a hopper comprising:
    - i. a perforated bed for supporting the tablets in the hopper; and
    - ii. a spray nozzle located adjacent the perforated bed and connected via an inlet port to the re-circulation system for receiving water from the water re-circulation system and for discharging the water into the tablets supported on the perforated bed;
  - b. a basin below the perforated bed for receiving water from the perforated bed and including:
    - i. a rinse nozzle connected to the inlet port for receiving water from the water system and for discharging the water into the basin;
    - ii. a float valve for controlling the level of water in the basin by controlling the flow of water from the inlet port through the rinse valve into the basin; and
    - iii. a discharge device for discharging water from the basin through an outlet port connected to the water system; and
  - 20 c. a controller for connecting the flow of water to the spray nozzle, for connecting the flow of water to the rinse nozzle, and for controlling the operation of the discharge pump so that the discharge pump discharges water faster than water is supplied to the perforated bed by the spray nozzle.
2. The water purification apparatus of Claim 1, wherein the spray nozzle discharges the water into direction parallel to the perforated bed.
- 25 3. The water purification apparatus of Claim 1, wherein the rinse nozzle includes a plurality of rinse nozzles around the periphery of the basin.
4. The water purification apparatus of Claim 1, wherein the basin further has a liquid level safety switch connected to controller so that when the water level in the basin exceeds a

predetermined level, the liquid level safety switch senses that water level and causes the controller to disconnect the flow of water to the spray nozzle and to the rinse nozzle.

5. The water purification apparatus of Claim 1, wherein the basin further includes an overflow port connected to a controlled discharge system and wherein the overflow port is positioned above a predetermined water level in the basin so that when the water level in the basin exceeds that predetermined water level, the water is discharged through the overflow port to a safe location.
6. The water purification apparatus of Claim 1, wherein the hopper includes a removable spray nozzle access panel positioned adjacent the spray nozzle.
- 10 7. The water purification apparatus of Claim 6, wherein the water purification apparatus includes a switch connected to the controller and located adjacent the spray nozzle access panel for sensing the presence of the access panel so that when the access panel is removed, the switch causes the controller to disconnect the flow of water to the spray nozzle and to the rinse nozzle and to disable the pump.
- 15 8. The water purification apparatus of Claim 1, wherein the water purification apparatus further includes a component compartment located adjacent the basin for housing the controller and the pump and having a removable component compartment access panel.
9. The water purification apparatus of Claim 8, wherein the component compartment includes a switch connected to the controller and located adjacent the component compartment access panel for sensing the presence of the access panel so that when the access panel is removed, the switch causes the controller to disconnect the flow of water to the spray nozzle and to the rinse nozzle and to disable the pump.
- 20 10. The water purification apparatus of Claim 1, wherein the hopper has a top opening with a concave cutout sized to accommodate a standard container in which tablets are supplied and a hinged lid with a convex protrusion sized to match the concave cutout.
- 25 11. The water purification apparatus of Claim 10, wherein the hopper has a switch connected to the controller and located adjacent the hopper lid for sensing the position of the hopper lid so that when the hopper lid is open, the switch causes the controller to

disconnect the flow of water to the spray nozzle and to the rinse nozzle and to disable the pump.